

Claims 41-50 (Previously Cancelled).

REMARKS

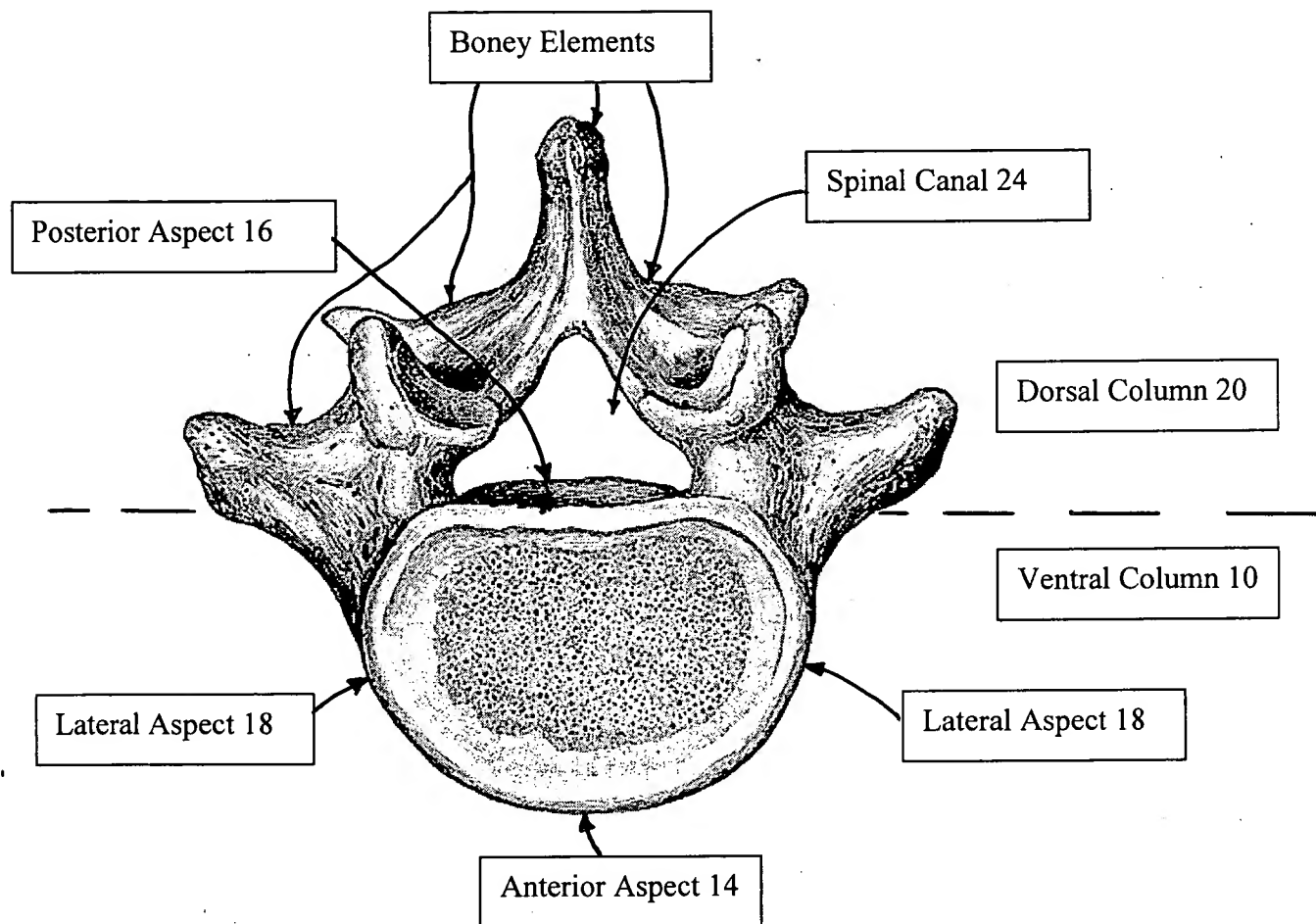
Claims 15-16, 22-26 and 30-39 are currently pending. Applicants respectfully submit the following remarks and amendments in response to the Office Action mailed September 7, 2006. Reconsideration and allowance of the claims is earnestly solicited.

Obviousness Rejections

Claim 15, and those depending from claim 15, were rejected as alleged obviousness under 35 USC 103(a) over Raymond '331 and Raymond '153 in view of Feler. Applicants respectfully traverse these rejections for the following reasons.

Claim 15 has been amended to clarify, among other things, the lateral approach to the **spine** of the present invention, which – contrary to the Examiner's unsupported position – is neither taught, suggested or motivated by the Raymond '331, Raymond '153 and/or Feler references. As shown below (and as is well known), the spine consists of a ventral (a.k.a. anterior) column 10 and a dorsal (a.k.a. posterior) column 20. As shown below, at each spinal level the ventral column 10 includes a plurality of vertebral bodies 12 and a plurality of intervertebral discs (not shown) disposed in between the vertebral bodies 12. The vertebral bodies 12 and intervertebral discs each have an anterior aspect 14, a posterior aspect 16 opposite from the anterior aspect 14, and a lateral aspect 18 extending between the anterior aspect 14 and posterior aspect 16. At each spinal level the dorsal column 20 includes a plurality of bone

elements 22 extending from the vertebral bodies 12 to form a spinal canal 24 that contains and protects the spinal chord 26.



Figures 1 and 4 of the present application are cross-sectional views of a patient's spine, looking down as though the patient is on his or her back. The lumbar spine is shown, by way of example, comprising the first lumbar vertebra (L1), second lumbar vertebra (L2), third lumbar vertebra (L3), fourth lumbar vertebra (L4), fifth lumbar vertebra (L5), and first sacral vertebra (S1). As should be apparent from these figures, the probes 20, 22 are introduced into the patient's spine from a lateral direction (from the left and right, respectively). Among other areas,

the lateral introduction of probes or tools is clearly supported at page 11, lines 19-20 (probes 12, 14) and at claim 18 as originally filed (and therefore part of the original specification): “The method of claim 15, wherein emitting a stimulus pulse from a probe or surgical tool comprises emitting a stimulus pulse from separate left and right **probes introduced into the patient on opposite lateral sides of the patient’s spine.**” (Emphasis added). That the probe or surgical tool of claim 15 approaches the ventral column of the spine, as opposed to the dorsal column, is evident – among other places – at page 5, lines 14-15 (describing a procedure involving reducing pressure on an existing spinal nerve positioned between two adjacent vertebra) and at page 18, lines 18-19 (describing a procedure involving decompressing nerves due to a herniated intervertebral disc). This is an important distinction relative to the Feler reference, which merely describes positioning a stimulation electrode with respect to the dorsal column of a patient (see Abstract), not the ventral column (nor the lateral aspect thereof) of the spine as now claimed.

The foregoing is critical to a full and fair review of amended claim 15, in that none of the Raymond ‘331, Raymond ‘153 and/or Feler references appears to disclose, teach, or otherwise contain any motivation that would have led one of skill in the art to the present invention. Indeed, the Final Office Action is completely devoid of any specific teaching or suggestion within these references of the claimed lateral approach to the **spine**. Instead, the Examiner has yet again mistaken the distinction between the spine and a nerve (see page 4 “Response to Arguments” at lines 2-3 and 5-9). Based on this gross misunderstanding, Applicant need not respond to the Examiner’s unsupported assertions that the advantages of a lateral approach “are seen as well known to the ordinary practitioner in the art” and that the absence discussion about the advantages of a lateral approach in the specification is “evidence that such an approach

would have been obvious to an ordinary practitioner in the art.” If these assertions *were* directed at a lateral approach to the **spine**, they clearly lack sufficient support and/or represent impermissible hindsight such that – in either event – the rejection must be withdrawn as inappropriate.

Nor do the cited references appear to disclose, teach, or suggest the feature of “increasing the intensity level of said stimulus signal **only until** said predetermined neuro-muscular response is elicited by said stimulus pulse” or the feature of “communicating to an operator said intensity level of said stimulus signal required to elicit said predetermined neuro-muscular response” as now set forth in claim 15, as amended. The feature of stopping the stimulation when the predetermined neuro-muscular response is achieved is important in that it prevents over stimulating the nerve, which eliminates any unwanted heavy muscle twitching that may otherwise occur.

The feature of communicating the intensity level of the stimulus signal required to obtain the pre-determined neuro-muscular response is similarly not present in the cited references. Contrary to the Examiner’s assertion at page 3, line 6-7, the tone module 20 of Raymond ‘331 does not indicate the intensity level of the **stimulus signal** required to elicit the pre-determined neuro-muscular response. Instead, it merely indicates the resulting response waveform, which is distinguishable from the intensity level of the stimulus signal and thus different that what is claimed. Contrary to the Examiner’s assertion at page 4, lines 3-4, the Raymond ‘153 does not teach this claimed feature. Instead, as shown on screen 18 of Fig. 1, Raymond ‘153 merely discloses plotting the distance between the electrode and the nerve over time. It does not

specifically communicate the intensity level of the stimulus signal required to elicit a pre-determined neuro-muscular response.

Based on the foregoing distinctions between Claim 15 and the prior art of record, Applicants respectfully submit that one of ordinary skill in the art would not have been led to the present invention (as now claimed) based on the cited references. Claim 15 is believed to be in proper condition for allowance and an indication of such is hereby respectfully requested.

Claims 16, 22-26 and 30-39, being dependant upon and further limiting independent claim 15, should be allowed for the reason set forth in support of the allowability of claim 15, as well as the additional limitations they contain.

Conclusion

Favorable consideration and allowance of the claims are respectfully requested. In the event that there are any questions concerning this Response to Office Action or the application in general, the Examiner is cordially invited to telephone the undersigned attorney so that prosecution may be expedited.

Respectfully submitted,
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